Bardel Entertainment Enhances Storage and Production Capacity to Support Animation Projects with Industry Leaders

Vancouver, Canada-based Bardel Entertainment started in 1987 as a family-run business making hand-crafted animation. It is now an internationally-recognized, award-winning studio with state-of-the-art facilities. Their 450-member team produces animated primetime series, children's programming, and projects for subscription video on demand (SVOD) or video on demand (VOD) platforms with industry-leaders such as Netflix, Disney+, HBO, Dreamworks, and Warner Brothers.

In more than three decades, working on 125-plus projects, Bardel has pushed boundaries and defied convention while evolving creatively, operationally, technically, and financially. During this transformation, while facing client and industry pressures, and embracing technical advancements, their managed data has grown; it requires a 1.5 petabyte storage cluster and an adaptable network infrastructure, and spans several software applications.

Qumulo enables smooth transition during virtual network and office moves

Each Bardel project has dynamic workflows and unique needs that full-time staff and contractors handle as they pursue fresh ideas and use creative techniques to deliver the best content. Supporting projects that are at different development stages, IT deals with massive amounts of data. This data sits in multiple software applications such as Autodesk, Foundry and their Katana platform, Toon Boom Harmony, or 3D Lite, and on nearly 1,000 machines.

More recently, as production needs fluctuated and grew, their legacy production file storage solution couldn't deliver the performance they needed. "It created restrictions for our staff, and they had to be very careful not to impact its usability or the amount of storage available," said Arash Roudafshan, Vice President of Technology at Bardel Entertainment. They also lacked transparency and visibility without detailed analytics that reveal problems negatively impacting their storage—a process inefficiency, the amount of manual data intervention taking place, or multiple, high-demand projects putting stress on the network.

In 2022, with six active productions that had heavy workloads, Bardell chose to migrate their old production file storage environment and active projects into Qumulo. Unfortunately, this massive undertaking was more complicated as they simultaneously went through a physical office and studio move, and had to tear down, then rebuild their storage, data center infrastructure, and network multiple times in five months.

The first transition was to a temporary data center because their building lease ended, but the newly-constructed building wasn't ready. Once complete, their permanent location would store and maintain all infrastructure, but Bardel couldn't afford production downtime at any point. Clients depended on them to meet deadlines, fulfill needs, and deliver the quality content they're known for.

Production, corporate and IT staff rely on Qumulo to maintain productivity and increase storage efficiency

By choosing Qumulo, and implementing it while moving and completing their workforce redistribution, Bardel achieved a more stable data environment. They also gained the flexibility and choice of on-premise, hybrid, or cloud storage, and deeper analytics to problem solve and plan in the moment, or for the future, given client demands and simultaneous heavy workloads.

Along with Qumulo, they selected data center facility owners that could accommodate all of their needs as they completed each move and offloaded their data into Qumulo. Roudafshan emphasized how the multi-step teardown process, and completing detailed documentation during it, gave them fresh insights into the dynamic environment.

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Bardel Entertainment, an internationally-recognized, award-winning animation studio works with Netflix, Disney+, HBO, and other industry leaders developing awe-inspiring content that uses data and creative techniques. Their data sits in multiple applications and on nearly 1,000 machines and Qumulo provides an adaptable infrastructure and scalable storage to help Bardel maintain its high-performance state.

- **Network stability:** Implementing Qumulo while moving and completing workforce redistribution, Bardel gained a more stable environment for upwards of 1.5 PB of data. They experienced little network and production downtime with multiple moves of equipment and data, keeping projects on track, clients happy, and data safe and secure—even with their globally distributed teams that include 450+ production staff, including outsourced contractors.

- **High-capacity productivity and increased storage efficiency:** Qumulo scales across on-premise, hybrid, or cloud environments, reducing Bardel's reliance on physical boxes and supporting use of next-generation, hybrid hardware, which animation workloads increasingly require. Deeper analytics, supplied by Qumulo, also help Bardel problem solve and plan in the moment to support heavy workflows simultaneously.

- **Addressing client requests, expected and unexpected:** Qumulo supports archive recovery and data back-ups, allowing Bardel to shift from a laborious, time-intensive process of accessing old files for upcoming projects to one that's easy and fast. Seamless connection between Qumulo and Cohesity also helped create a standard approach for these types of tasks to maintain customer satisfaction and consistent performance.

"We used it as a testing ground to ensure all routing rules and regulations worked, were performant, and then started the migration … By ripping everything apart, and building it again, we also saw how everything got put together, what we didn't need, and what we wanted to replace going forward."

The technology team worked non-stop to complete the migration in the shortest time possible, and maintain a stable work environment for the 450 production staff and corporate employees. By having little network and production downtime, they kept projects on track, clients happy, and all data safe and secure. The biggest outage was a few days for the core infrastructure to move from their old to new facility.

With everything synchronized, they staged a full production cut and didn't need to touch the old production filer. Qumulo was up and running, and they mitigated risks of moving live data. After completing this final transition, they used Qumulo to create backups to Amazon Web Services S3 for data archiving. This provided them with a clean slate for storage archiving post-move instead of decommissioning and recommissioning all data—a nearly impossible process with the lack of documentation and difficult setup left by their predecessors.

With Qumulo running on the all-NVMe Supermicro platform, the Bardel team was able to stop worrying about storage performance for a complicated pipeline in their evolving environment. The platform allowed for extremely easy deployment and management of the petabyte-scale storage required with consistently high performance.

Reliable analytics increase data capacity, productivity, and project workflows

Qumulo's centralized dashboard offers Bardel a complete overview and critical details of their storage activity, plus key visibility into workflows. "We can instantly and specifically understand how our historical archives look, which projects are most efficient with data storage or those that require more manual intervention, and what processes may benefit from more automation," stated Roudafshan.

There's actually an industry compute model that helps Bardel understand every show's growth structure and forecast how much data will be created from a shot, scene, episode, and full season. Historically, when they relied on this model, Bardel could see if something deviated or went wrong, but spent considerable time identifying the root cause. By giving production managers access to Qumulo's analytics, they now see the complete data set, can detect what data doesn't belong or is larger than expected, if there's a bug in pipeline code, or if human error played a part in problems. With this insight, they also have more productive conversations that support resolution, and can decide the best architectural design to tier or backup data, or what access rights and controls will help keep storage under capacity, data protected, and all staff performant.

The Qumulo analytics were especially useful when they encountered capacity issues from higher amounts of data being pushed to S3 in the new space. After the Qumulo-to-S3 migrations were complete, there were some instances where their 1.5 petabyte cluster struggled to maintain full performance. The Qumulo dashboard revealed that soon enough and they were able to implement Cohesity as a backup to Qumulo, the two worked perfectly together, and they avoided any data recovery issues.

With Qumulo, Bardel applies a bold, innovative approach to support current and future workloads

As they have dealt with dynamic clients, new and unexpected requests, and a globally-dispersed workforce, Bardel has chosen to think differently, be creative, and act boldly, adjusting and optimizing how they operate from the front- to back-end network—and Qumulo is a key part of this equation delivering on all storage and data needs.

There have been recent instances, for example, where a client sought old content for their upcoming production. Sometimes it's a one-time character they seek to reuse, or in certain situations, a new project needs to follow the same special effect structure or the same tool needs of another project. The previous workload for this request was significant; they had to rehydrate the entire show since it was encrypted, compressed, and a cloud back-up was created for the full asset. Now for archive recovery, Bardel rehydrates through Qumulo into Cohesity, and backs up the data through Amazon S3 or Wasabi, which makes it faster and easier to choose a certain asset or data. With a seamless connection between Qumulo and Cohesity, Bardel has been able to create a standard approach for these increasing tasks and avoided performance issues to maintain customer satisfaction.

Another example of their innovative thinking, company leadership has made a strategic choice to develop Bardel's on-premise environment as if it's cloud-based to support their global workflow and reduce latency across geographies. Since Qumulo offers storage choices (e.g., on-premise, cloud, or hybrid) for any situation, the tech team has full flexibility with their storage environment and no longer has to deal with physical boxes, dedicate a machine to an artist, scramble for machines they don't have, or hire extra staff to support changing production needs. As they increasingly use more next-generation, hybrid hardware, taking this approach will also help them scale render capacity with artist's changing workflows and ensure that all production staff, including contractors and outsourced teams, have the same high-performing infrastructure and storage capacity.

"We can turn the dial, move resources around easily to support last-minute client changes or requests instead of saying 'no,' and understand the cost to execute them. With Qumulo's help, we can achieve the things our clients want and execute well, which makes us more successful as a studio."

– Arash Roudafshan, Vice President of Technology, Bardel Entertainment

With Roudafshan's belief that there is always the right tool for the right job, Qumulo has fulfilled Bardel's wide-ranging needs, even as they made a virtual network transition and physical move. As they look ahead, and anticipate more challenges and opportunities from the industry, clients, and technology, they are confident that Qumulo will help them maintain a high-performing state at all times.